US Army Corps
of Engineers
South Atlantic Division

South Atlantic Region

2008 Regional Response Table Top Exercise EOC Briefing

Scenario 4 – Landfall + 24 Hours

October 1, 2008

EXERCISE EXERCISE
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US Army Corps of Engineers
South Atlantic Division

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Situation Assessment

Current Situation

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EXERCISE

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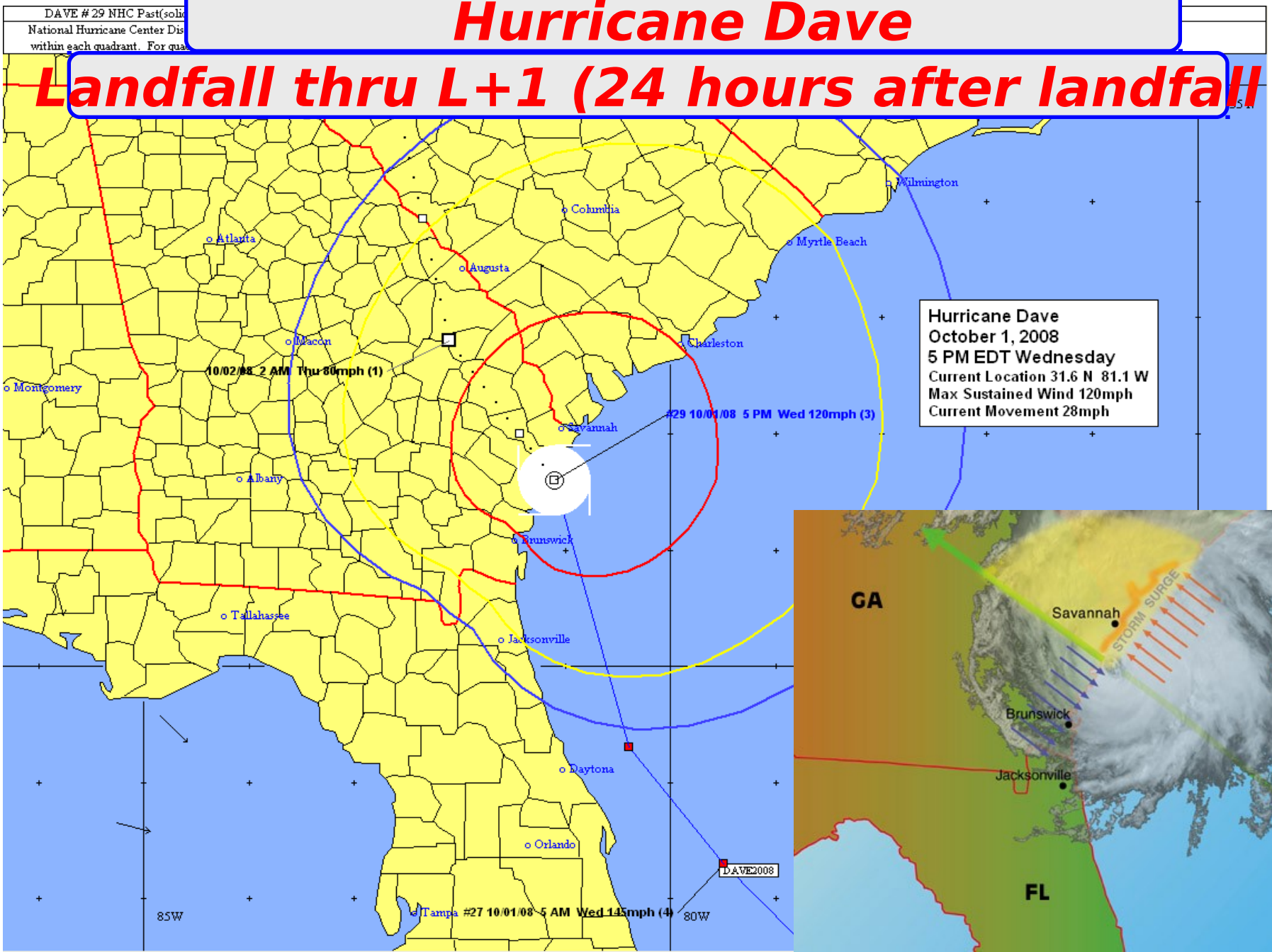
Hurricane Dave

Landfall thru L+1 (24 hours after landfall



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South Atlantic Division

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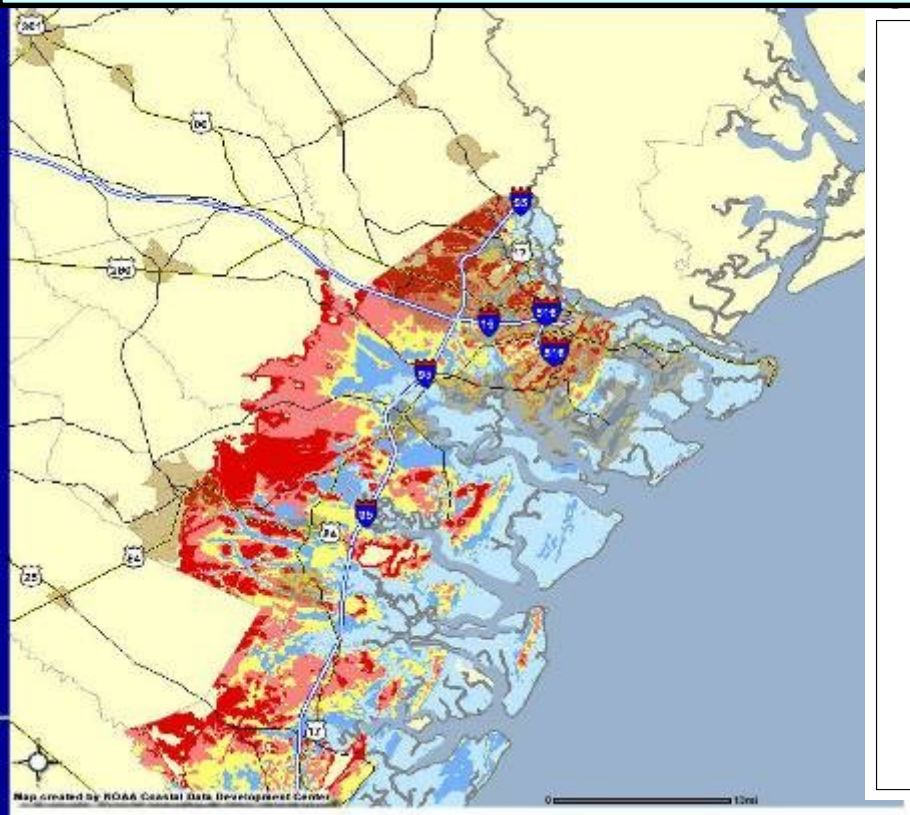
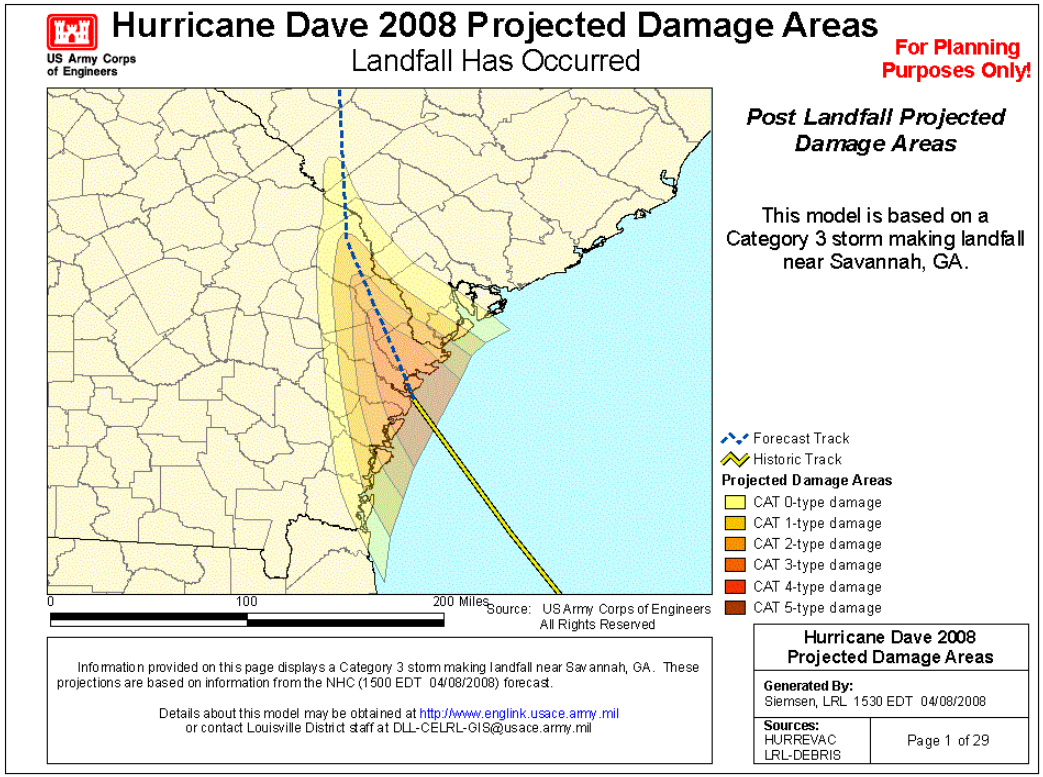
Hurricane "Dave" Landfall + 24 Hours

SITUATION: At approximately 5:00 pm EDT Hurricane Dave made landfall near Savannah as a powerful Category 3 Hurricane. Storm surges with the Hurricane exceeded 12 feet in some areas. Preliminary reports indicate significant damages along the entire Georgia coastline with the most severe being Chatham County, Georgia. After landfall the hurricane dissipated quickly and became a heavy rain maker with flood potentials for SC and NC.

In additional to coastal damages inland damages from hurricane force winds extend into South Carolina. There are major power and communications outages through the impacted area. In Savannah downtown flooding is making it difficult to reach certain areas to assess damages. The Savannah District Office of the US Army Corps of Engineers has been evacuated, as well as many other government and commercial offices. Initial estimates based on USACE Mission Models indicate massive response and recovery efforts will be initiated to include emergency power, infrastructure assessment, commodities, debris clearance and removal, temporary roofing and temporary housing support.




Hurricane Dave 2008 Projected Damage Areas
US Army Corps of Engineers
Landfall Has Occurred
For Planning Purposes Only!
Post Landfall Projected Damage Areas
This model is based on a Category 3 storm making landfall near Savannah, GA.
0
100
200 Miles
Source: US Army Corps of Engineers
All Rights Reserved
Forecast Track
Historic Track
Projected Damage Areas
CAT 0-type damage
CAT 1-type damage
CAT 2-type damage
CAT 3-type damage
CAT 4-type damage
CAT 5-type damage
Information provided on this page displays a Category 3 storm making landfall near Savannah, GA. These projections are based on information from the NHC (1500 EDT 04/08/2008) forecast.
Details about this model may be obtained at http://www.englink.usace.army.mil
or contact Louisville District staff at DLL-CELRL-GIS@usace.army.mil
Hurricane Dave 2008 Projected Damage Areas
Generated By:
Siemsen, LRL 1530 EDT 04/08/2008
Sources:
HURREVAC
LRL-DEBRIS
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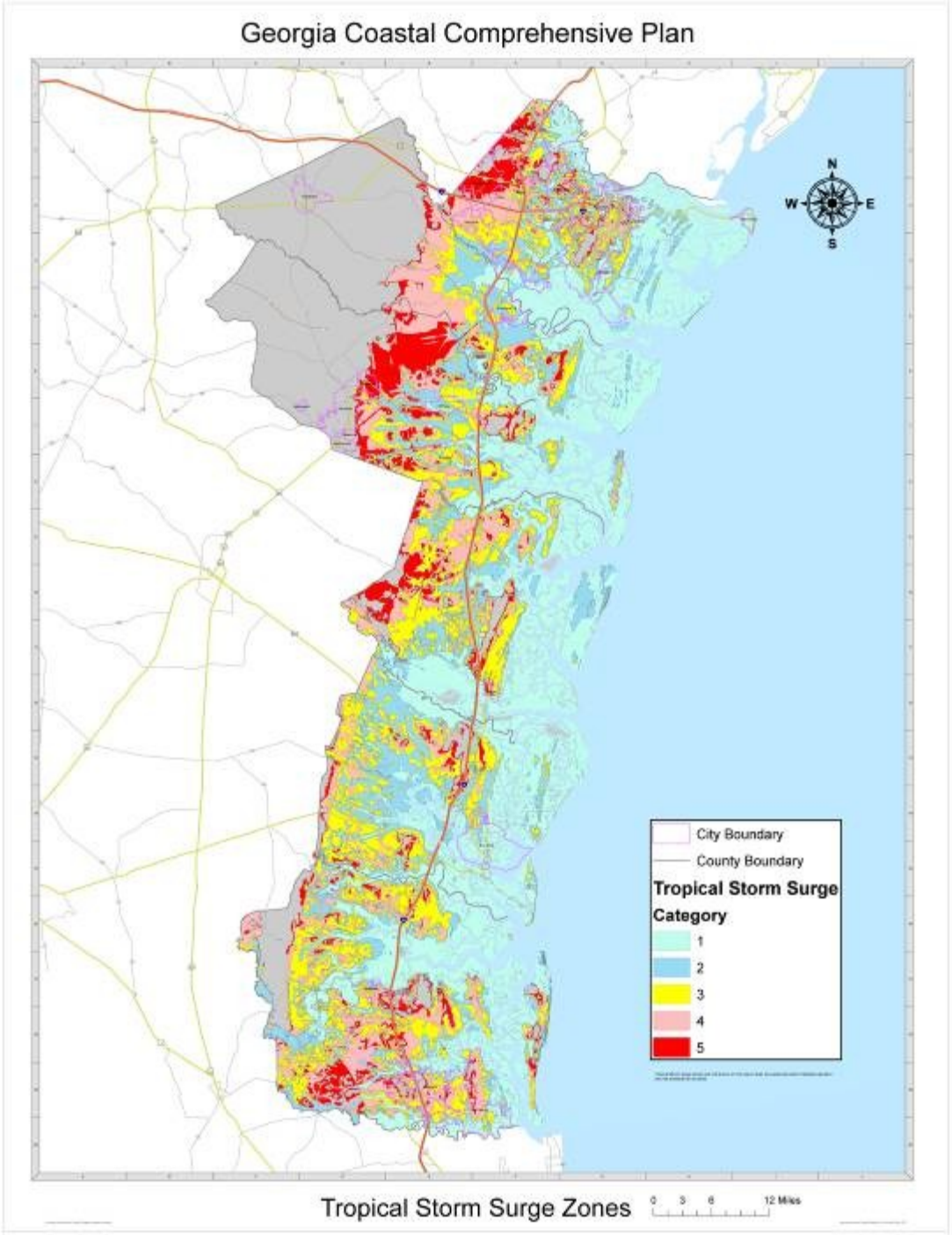
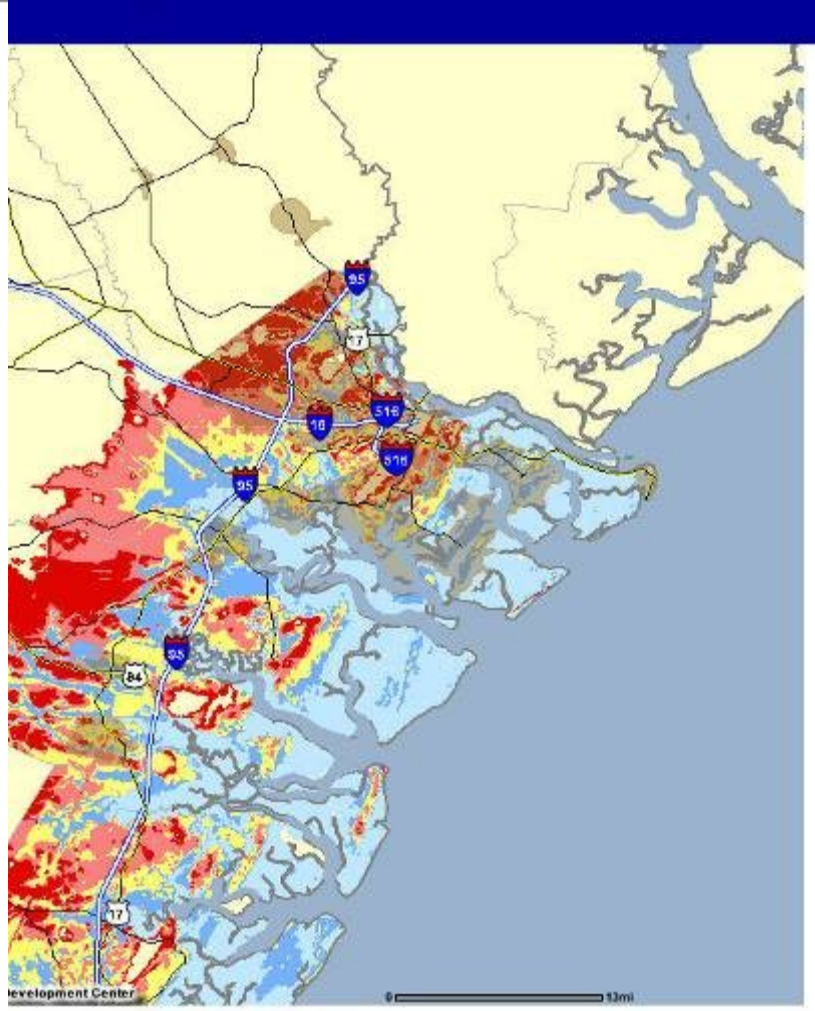

Georgia Coastal Comprehensive Plan
N
W
E
S
City Boundary
County Boundary
Tropical Storm Surge
Category
1
2
3
4
5
Tropical Storm Surge Zones
0 3 6 12 Miles


95
17
16
516
516
95
95
84
17
0 13mi

Storm Surge
Tropical Storm
Category 1
Category 2
Category 3
Category 4
Category 5

CISE

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South Atlantic Division

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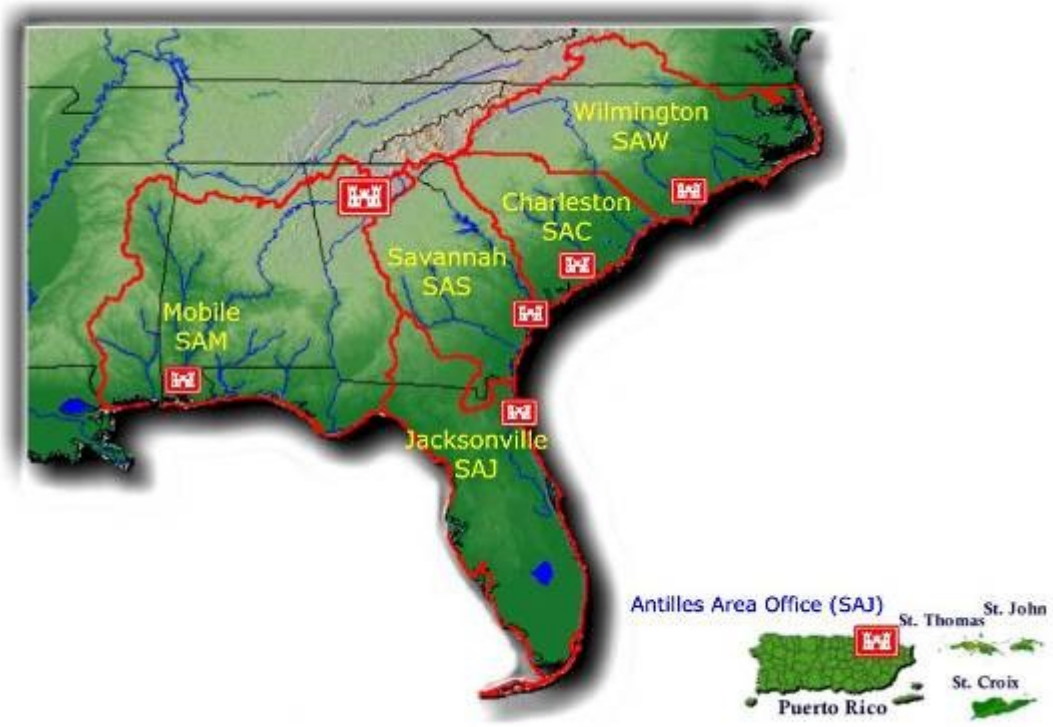
Human Resources

Accountability

Unaccounted For

100% Accounted For

Location	Accounted	Un-accounted	Status
Charleston	100%		
Jacksonville	100%		
Mobile	100%		
*Savannah	98%	2%	
Wilmington	100%		



Deployments and Assignments

Location	Team Leader	Assistant Team Leader/ Action Officer
NRCC (DC)		
RRCC IV (Atlanta)		
State EOC –FL		
State EOC - GA		
State EOC – SC		
State EOC - NC		
HQ USACE (UOC)		
HQ Atlanta (SAD)		

*** Savannah District continues to conduct personnel accountability and call in procedures for those team members that evacuated the Savannah Area.**

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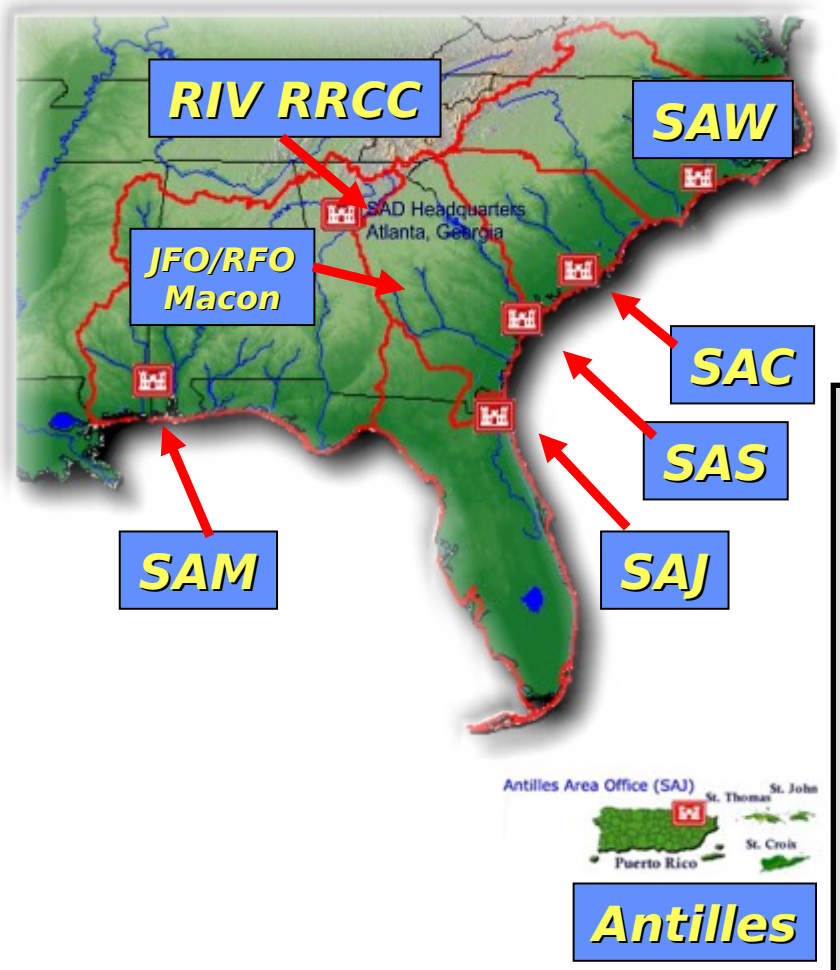
Operational Update – USACE (Landfall + 24 Hours)



USACE (SAD) ACTIVITIES:

SAD: South Atlantic Division

- EOC Activated at Level I – Full Activation (24/7)
- Conducting daily Conf calls with Districts

For Mission Assignments See next slide.

- ESF#3 – Region IV RRCC in Atlanta (24/7
- ESF#3 – Joint Field Office – Macon Georgia

DISTRICT ACTIVITIES:

SAC - EOC activated at Level I – Full Activation to perform National Ice Mission if required.

SAJ –

- EOC returned to Level II – Providing Temporary Roofing Team to Georgia.
- PL 84-99 Liaison deployed to GA State EOC

SAM - EOC activated at Level II – Partial Activation

- SAM Debris Team (Management Cell) deployed in support of Georgia

SAS - EOC activated at Level I – Full Activation

- Activated COOP initial notification procedures and Team Member Accountability for team members evacuated
- Initiated COOP procedures for maintaining C2 during evacuation and post evacuation

SAW - EOC activated at Level II – Partial Activation

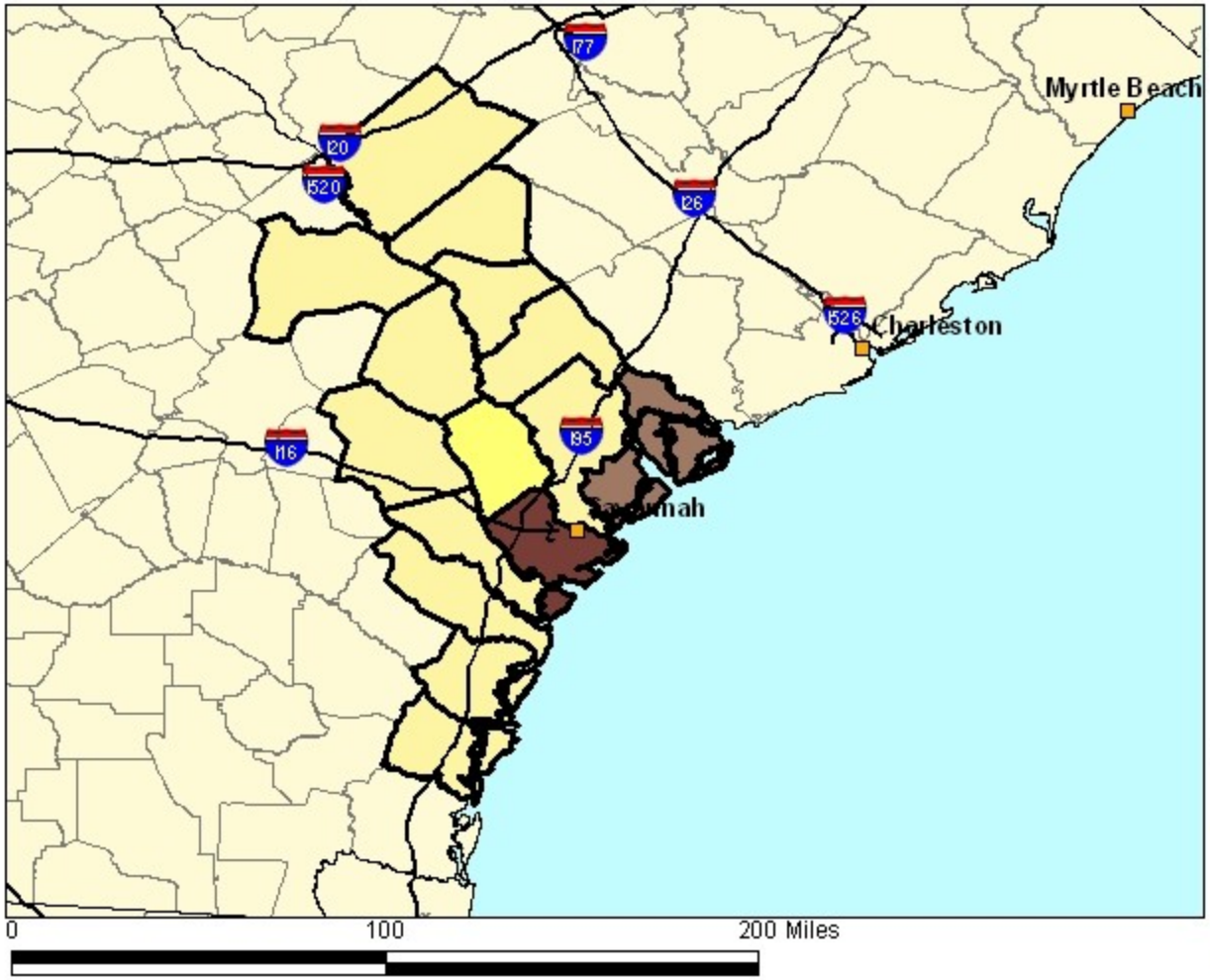
- SAW Commodities Team Deployed in support of Georgia

US Army Corps of Engineers

Hurricane Exercise Population Model

Landfall Expected In About **4** Hours

For Official Use Only!



Post Landfall Population Model Results

Georgia - 343,000
South Carolina - 174,000

Model results per county on following page

This model is based on a Category 3 storm making landfall near Savannah, GA.

Population

- < 25,000 persons
- 25,000 - 99,999 persons
- 100,000 - 174,999 persons
- 175,000 - 249,999 persons
- > 250,000 persons

Information provided on this page displays a Category 3 storm making landfall near Savannah, GA. These projections are based on information from the NHC (1400 EDT 06/05/2007) forecast. The numbers of persons included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2005 values).

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

Hurricane Exercise Population Model	
Generated By: Siemsen, LRL 1430 EDT 06/05/2007	
Sources: HURREVAC LRL-DEBRIS	Page 3 of 12

US Army Corps of Engineers

Hurricane Exercise Population Model

Landfall Expected In About **4** Hours

For Official Use Only!

State	Population per State	County	Population per County
Georgia		Bryan	23,000
		Bulloch	3,000
		Burke	2,000
		Chatham	239,000
		Effingham	47,000
		Glynn	4,000
		Liberty	10,000
		Mcintosh	6,000
		Screven	9,000
Georgia	343,000		
South Carolina		Aiken	< 1,000
		Allendale	8,000
		Barnwell	2,000
		Beaufort	131,000
		Hampton	11,000
		Jasper	22,000
South Carolina	174,000		

The number of persons estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2005 values.

Details about this model may be obtained at **https://englink.usace.army.mil** or contact ENGLink at 1-877-936-4546

Hurricane Exercise Population Model

Generated By:
Siemsen, LRL 1430 EDT 06/05/2007

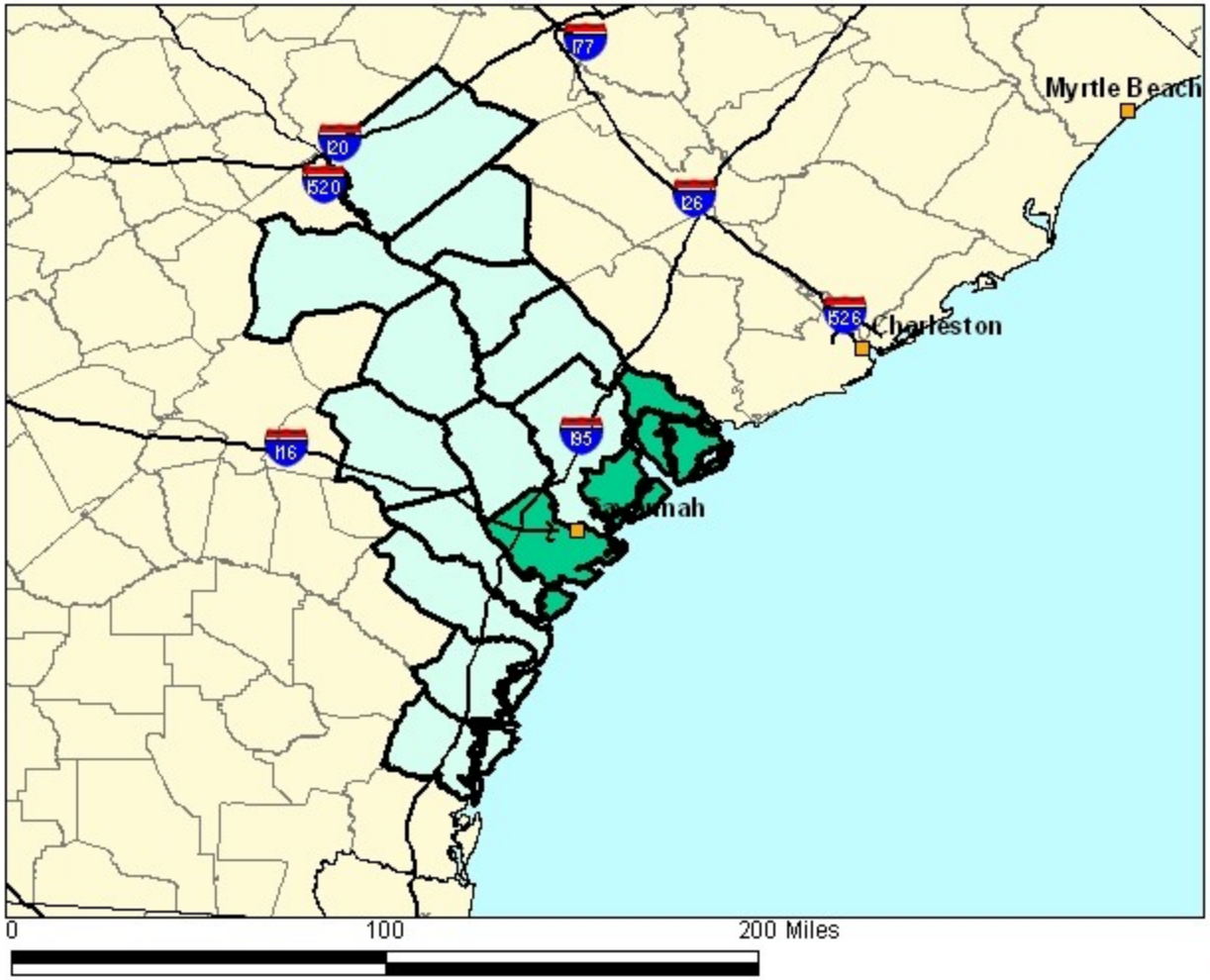
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Exercise Commodities Model

Landfall Expected In About **4** Hours

For Official Use Only!



Post Landfall Ice/Water Model Results

Day One / Day Two / Day Three
GA – 8/16/32 Truckloads Each
SC – 4/8/17 Truckloads Each

Model results per county on following page

This model is based on a Category 3 storm making landfall near Savannah, GA.

Commodities
- < 5 Trucks Each
- 5 - 10 Trucks Each
- 11 - 20 Trucks Each
- 21 - 40 Trucks Each
- > 40 Trucks Each

Information provided on this page displays a Category 3 storm making landfall near Savannah, GA. These projections are based on information from the NHC ***(1400 EDT 06/05/2007)*** forecast. The amount of commodities forecasted is based on Mission Guide Book requirements (8 pounds of ice per person per day) and SME input. The graphic represents single day needs with full distribution system in place and operating.
Details about this model may be obtained at **https://englink.usace.army.mil**
or contact ENGLink at 1-877-936-4546

Hurricane Exercise Commodities Model	
Generated By: Siemsen, LRL 1430 EDT 06/05/2007	
Sources: HURREVAC LRL-DEBRIS	

US Army Corps of Engineers

Hurricane Exercise Commodities Model

Landfall Expected In About **4** Hours

For Official Use Only!

State	Truckloads per State	County	Truckloads per County
Georgia		Bryan	2
		Bulloch	1
		Burke	1
		Chatham	20
		Effingham	4
		Glynn	1
		Liberty	1
		Mcintosh	1
		Screven	1
Georgia	32		
South Carolina		Aiken	1
		Allendale	1
		Barnwell	1
		Beaufort	11
		Hampton	1
		Jasper	2
South Carolina	17		

The amount of commodities forecasted is based on Mission Guide Book requirements (8 pounds of ice per person per day) and SME input and the above table indicates suggested needs based on phased deployment of a commodities distribution system. The assumption in this scenario is that 40% of the resident population affected by the hurricane will have power outage in this area and cause a need for ice and water.

Details about this model may be obtained at **https://englink.usace.army.mil**
or contact ENGLink at 1-877-936-4546

Hurricane Exercise Commodities Model

Generated By:
Siemsen, LRL 1430 EDT 06/05/2007

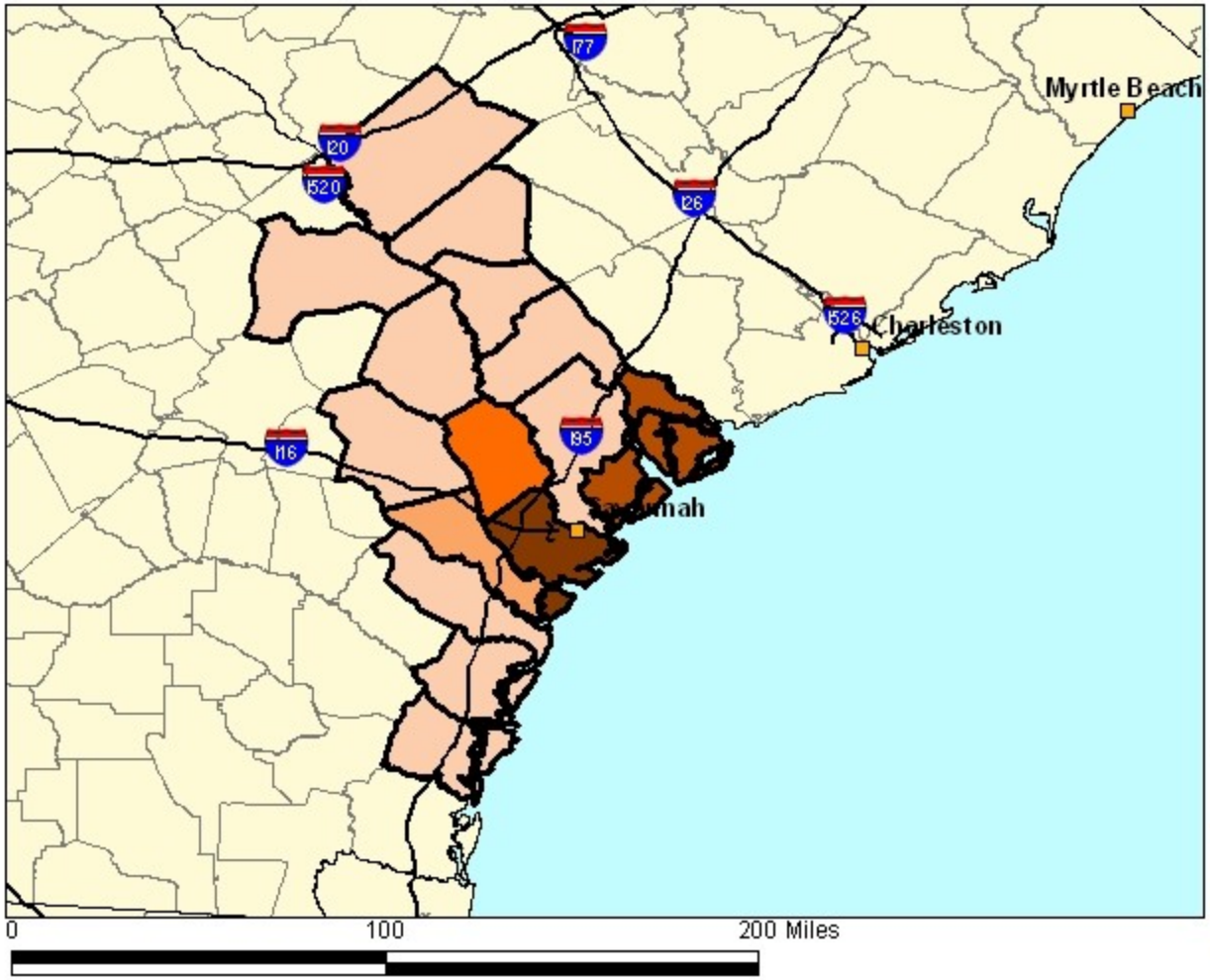
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Exercise Households Model

Landfall Expected In About **4** Hours

For Official Use Only!



Post Landfall Households Model Results

Georgia - 133,000
South Carolina - 65,000

Model results per county on following page

This model is based on a Category 3 storm making landfall near Savannah, GA.

Households

- < 7,500 households
- 7,500 - 14,999 households
- 15,000 - 24,999 households
- 25,000 - 49,999 households
- > 50000 households

Information provided on this page displays a Category 3 storm making landfall near Savannah, GA. These projections are based on information from the NHC (1400 EDT 06/05/2007) forecast. The numbers of households included in this model output are those that would be included within estimated hurricane force winds (Census 2000 values adjusted to July 2005 values).

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

Hurricane Exercise Households Model	
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Sources: HURREVAC LRL-DEBRIS	Page 5 of 12

US Army Corps of Engineers

Hurricane Exercise Households Model

Landfall Expected In About **4** Hours

For Official Use Only!

State	Households per State	County	Households per County
Georgia		Bryan	8,000
		Bulloch	2,000
		Burke	< 1,000
		Chatham	93,000
		Effingham	17,000
		Glynn	2,000
		Liberty	4,000
		Mcintosh	3,000
		Screven	4,000
Georgia	133,000		
South Carolina		Aiken	< 1,000
		Allendale	3,000
		Barnwell	< 1,000
		Beaufort	50,000
		Hampton	4,000
		Jasper	8,000
South Carolina	65,000		

The number of households estimated to be within the hurricane force winds comes from Census 2000 values adjusted to July 2005 values.

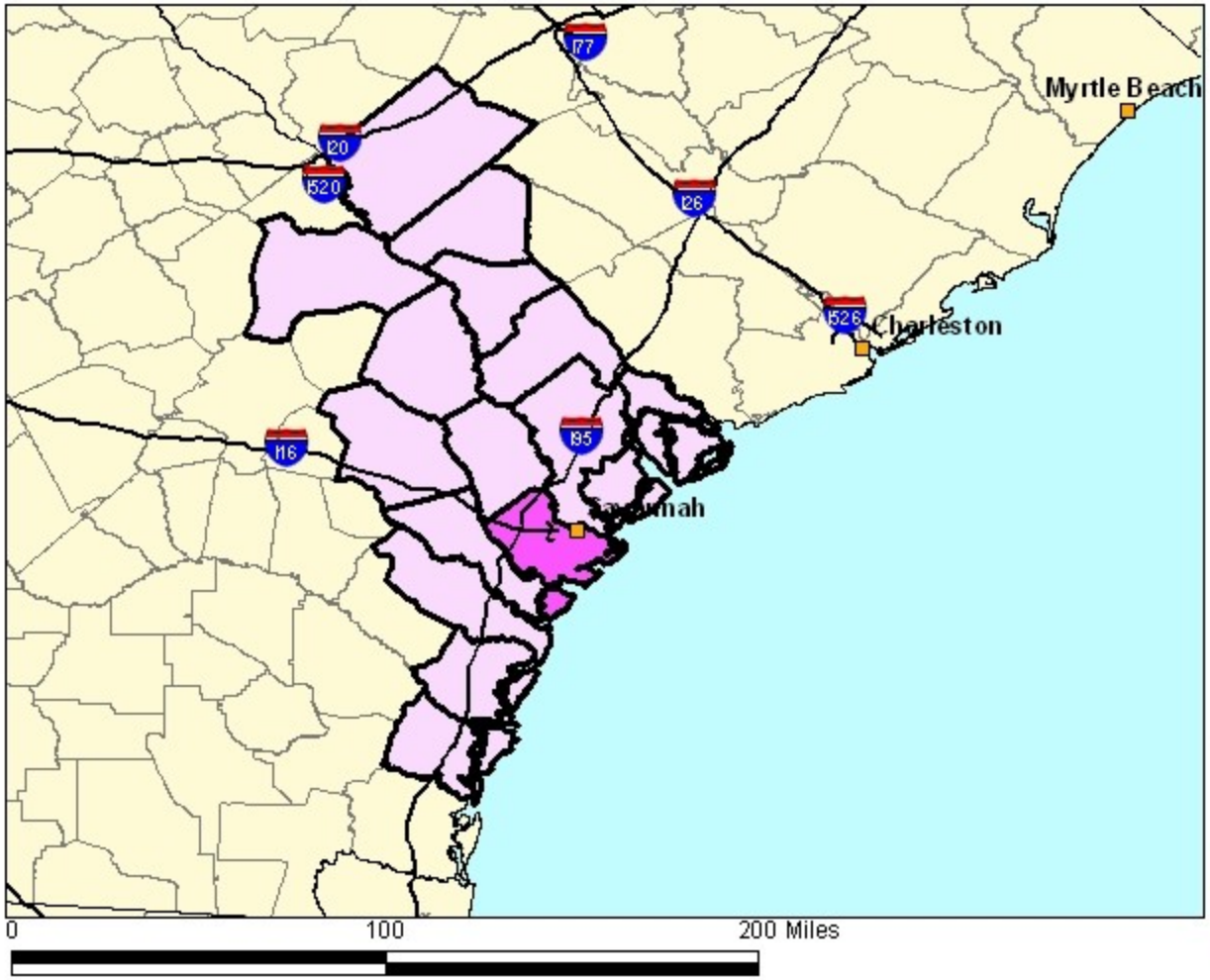
Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

US Army Corps of Engineers

Hurricane Exercise Temporary Housing Model

Landfall Expected In About **4** Hours

For Official Use Only!



Post Landfall Temporary Housing Model Results

Georgia - 5,800
South Carolina - 1,900

Model results per county on following page

This model is based on a Category 3 storm making landfall near Savannah, GA.

Temporary Housing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 3 storm making landfall near Savannah, GA. These projections are based on information from the NHC (1400 EDT 06/05/2007) forecast. Temporary housing is based on 1% in CAT 1, 3% in CAT 2 and 5% in CAT 3.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

Hurricane Exercise Housing Model	
Generated By: Siemsen, LRL 1430 EDT 06/05/2007	
Sources: HURREVAC LRL-DEBRIS	Page 9 of 12

US Army Corps of Engineers

Hurricane Exercise Temporary Housing Model

Landfall Expected In About **4** Hours

For Official Use Only!

State	per State	County	per County
Georgia		Bryan	200
		Bulloch	< 100
		Burke	< 100
		Chatham	5,000
		Effingham	600
		Glynn	< 100
		Liberty	< 100
		Mcintosh	< 100
		Screven	< 100
Georgia	5,800		
South Carolina		Aiken	< 100
		Allendale	< 100
		Barnwell	< 100
		Beaufort	1,600
		Hampton	< 100
		Jasper	300
South Carolina	1,900		

THIS IS AN EXPERIMENTAL MODEL!!

Temporary housing is based on 1% in CAT 1, 3% in CAT 2 and 5% in CAT 3.

Details about this model may be obtained at https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

Hurricane Exercise Housing Model

Generated By:
Siemsen, LRL 1430 EDT 06/05/2007

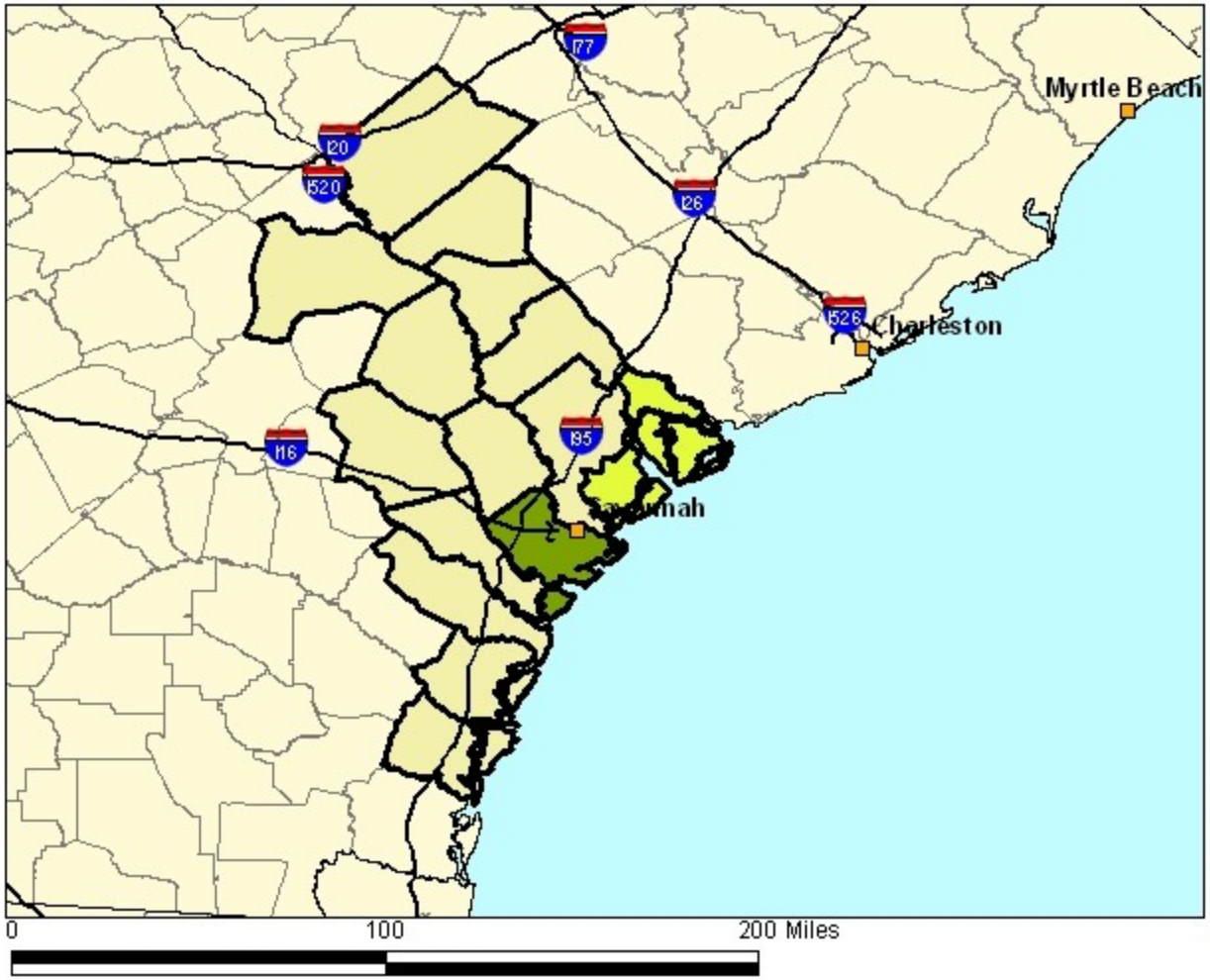
Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Exercise Temporary Roofing Model

Landfall Expected In About **4** Hours

For Official Use Only!



Post Landfall Temporary Roofing Model Results

Georgia - 12,100
South Carolina - 3,900

Model results per county on following page

This model is based on a Category 3 storm making landfall near Savannah, GA.

Temporary Roofing

- < 2,000 units
- 2,000 - 3,999 units
- 4,000 - 5,999 units
- 6,000 - 9,999 units
- > 10,000 units

Information provided on this page displays a Category 3 storm making landfall near Savannah, GA. These projections are based on information from the NHC (1400 EDT 06/05/2007) forecast. Temporary roofing is based on 2% in CAT 1, 6% in CAT 2 and 10% in CAT 3.

Details about this model may be obtained at https://englink.usace.army.mil or contact ENGLink at 1-877-936-4546

Hurricane Exercise Roofing Model	
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Sources: HURREVAC LRL-DEBRIS	Page 11 of 12

US Army Corps of Engineers

Hurricane Exercise Temporary Roofing Model

Landfall Expected In About **4** Hours

For Official Use Only!

State	House Units per State	County	House Units per County
Georgia		Bryan	400
		Bulloch	< 100
		Burke	< 100
		Chatham	9,600
		Effingham	1,700
		Glynn	< 100
		Liberty	200
		Mcintosh	< 100
		Screven	< 100
Georgia	12,100		
South Carolina		Aiken	< 100
		Allendale	< 100
		Barnwell	< 100
		Beaufort	3,100
		Hampton	200
		Jasper	600
South Carolina	3,900		

THIS IS AN EXPERIMENTAL MODEL!!

Temporary roofing is based on 2% in CAT 1, 6% in CAT 2 and 10% in CAT 3.

Details about this model may be obtained at https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

Hurricane Exercise Roofing Model

Generated By:
Siemsen, LRL 1430 EDT 06/05/2007

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers

Hurricane Exercise Debris Model

Landfall Expected In About **4** Hours

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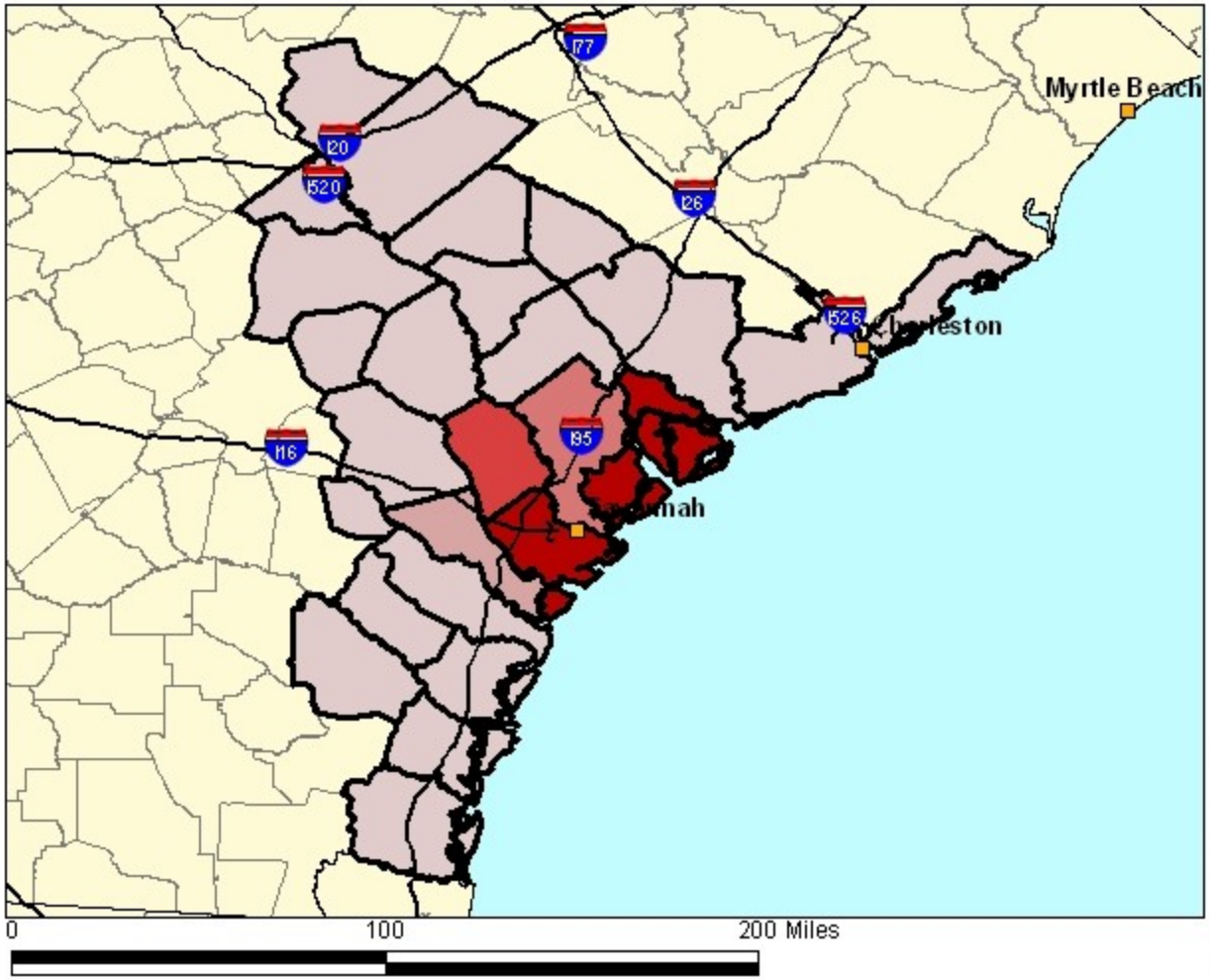

Post Landfall Debris Model Results

Georgia - 6,907,000 Yards
South Carolina - 2,340,000 Yards

Model results per county on following page

This model is based on a Category 3 storm making landfall near Savannah, GA.

Debris

- < 100,000 cubic yards
- 100,000 - 249,999 cubic yards
- 250,000 - 499,999 cubic yards
- 500,000 - 999,999 cubic yards
- >1,000,000 cubic yards

Information provided on this page displays a Category 3 storm making landfall near Savannah, GA. These projections are based on information from the NHC (1400 EDT 06/05/2007) forecast. The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

Details about this model may be obtained at https://englink.usace.army.mil
or contact ENGLink at 1-877-936-4546

Hurricane Exercise Debris Model	
Generated By: Siemsen, LRL 1430 EDT 06/05/2007	
Sources: HURREVAC LRL-DEBRIS	Page 1 of 12

US Army Corps of Engineers

Hurricane Exercise Debris Model

Landfall Expected In About **4** Hours

For Official Use Only!

State	Yards per State	County	Yards per County
Georgia		Bryan	148,000
		Bulloch	29,000
		Burke	9,000
		Camden	5,000
		Chatham	5,821,000
		Effingham	671,000
		Evans	< 1,000
		Glynn	52,000
		Jenkins	< 1,000
		Liberty	69,000
		Long	4,000
		Mcintosh	30,000
		Richmond	11,000
		Screven	58,000
		Wayne	< 1,000
Georgia	6,907,000		
South Carolina		Aiken	88,000
		Allendale	38,000
		Bamberg	< 1,000
		Barnwell	12,000
		Beaufort	1,699,000
		Charleston	< 1,000
		Colleton	6,000
		Edgefield	8,000
		Hampton	66,000
		Jasper	423,000
South Carolina	2,340,000		

The amount of debris forecasted is possible total volume, not necessarily the volume that may need to be removed with Federal funds.

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or contact ENGLink at 1-877-936-4546

Hurricane Exercise Debris Model

Generated By:
Siemsen, LRL 1430 EDT 06/05/2007

Sources:
HURREVAC
LRL-DEBRIS

US Army Corps of Engineers
South Atlantic Division

Mission Execution

- **FEMA NRCC MAs issued (Declaration) TOTAL**
  - National Activation -
  - National Water -
- **FEMA Region IV MAs issued (GA & SC): TOTAL _**
  - Regional Activation $10K (SC) $80K (GA)
  - Emergency Power $100K (SC) $350K (GA)
  - Temp Roofing $35K (SC) $40K (GA)
  - Debris $35K (SC) $40K (GA)
  - Combined Commodities $200K (GA)
  - Logistics (ULA) $40K (GA)
  - Water/Wastewater Assessment $50K (GA)
  - Temp Housing $40K (GA)
  - Critical Public Facilities $25K (GA)
  - Recovery Field Office (RFO) $100K (GA)

US Army Corps of Engineers
South Atlantic Division

EXERCISE - EXERCISE - EXERCISE

PFO/FCO/RRCC/State Priorities

(Region II and IV Federal Objectives)

EXERCISE EXERCISE
EXERCISE

US Army Corps of Engineers
South Atlantic Division

Next 24 Hours

- Activate Personnel accountability procedures for USACE Team Members in Georgia and South Carolina
- Continue coordination for deployment of additional

ESF #3, Subject Matter Experts (SME), Rapid Needs Assessments Teams (RNA) and other staff requirements emergency response operations

- Continue contingency planning and prepare to conduct Mission Analysis for State of Georgia and South Carolina
- Continue coordination for potential PL 84-99 Support
- Monitor/Report Status of USACE Projects in

US Army Corps
of Engineers
South Atlantic Division

Commander's Guidance

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